

**A NOTE ON THE LIFE HISTORY OF *MACROPLEA*  
*APPENDICULATA* (PANZER) (COL.: CHRYSOMELIDAE)**

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THE EGGS OF REED BEETLES and their allies (Donaciinae) are laid on aquatic plants on which the larva feeds below the surface of the water. When full-grown, the larva forms a cocoon attached to the submerged stem or root of the plant. Pupation occurs in the cocoon. The adult ecdodes in late summer but remains in the cocoon until the following year.

Evidence that the life history of the beetle *Macrolea appendiculata* (Plate I, Figs. 1-4) in Britain conforms to this pattern was first obtained many years ago (Collins, 1911). A visit to Talkin Tarn by J.A.O. on 26.viii.1994 provided material confirming the general style of the beetle's life history and allowing the major stages to be photographed. On the occasion, a larva and four cocoons were collected from stems of *Myriophyllum alterniflorum* DC growing near the edge of the tarn and subsequently kept in a jar of rain water along with some fronds of the host plant in an unheated garage.

The larva (Plate I, Fig. 2) was a stout, whitish, feebly-segmented, curved grub about 10mm in length, flattened on the ventral side and convex on the dorsal side. It appeared at first to be eating some of the foodplant but it died after about 25 days. Possibly it was injured in the process of being collected.

The cocoons had transparent walls. Two contained pupae whose features could be seen clearly through the cocoon walls (Plate I, Fig. 3). One of these was seen on 19.ix.1994 to hold an adult (Plate I, Fig. 4). The other at this stage was seen to be covered with fungal hyphae and was found on being opened to contain a dead pupa.

The other two cocoons were seen at the time of collection to hold adults which were similarly visible through the cocoon walls (Plate I, Fig. 4). One of these cocoons was seen to be cracked and the adult it had contained made its way out after a few days. The other, together with the cocoon holding the adult which had ecdoded in captivity, was put in a container of rain water in a domestic refrigerator which maintained a temperature in the range of 5-6°C to simulate winter conditions in the wild.

At the end of January, after the cocoons containing adults had been in the refrigerator for 18 weeks, mould started to affect the plant stems in the container in spite of regular replacement of the water. With fears that the mould might affect the adults in the cocoons, the container was removed from the refrigerator and placed in an unheated room where the temperature ranged from 8-12°C. Six days later, the container was found to contain two adults each of which had escaped from its cocoon through a small hole at

one end. It seems likely that the adults had become activated by the warmer environment.

*M. appendiculata* was first recorded from Talkin Tarn by Pearce (1922). At that site, the host plant appears to be exclusively *M. alterniflorum* but at other sites in Britain cocoons of the beetle containing adults have been found attached to a number of other aquatic plants including *Potamogeton* spp., *Scirpus* spp., *Carex* spp., *Sparganium* spp., *Sagittaria*, and *Butomus* (Collins, 1911; Stainforth, 1944; Aubrook, 1948).

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### References

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### Britain's newest and most northerly wasp population

Social wasps of the family Vespidae are only occasionally recorded in Shetland, Britain's most northerly land mass. Many records are anecdotal but they suggest that accidental importation, often in fruit, is the most common source of the records. However, records from ships at sea and from the remoter islands imply that natural vagrancy may occur. In the latter category are records of a Norwegian Wasp *Dolichovespula norwegica* (Fabricius) on Fair Isle on 22 August 1991 (Riddiford and Harvey 1992, *Ent. Rec.* 104: 263-264) and an unidentified wasp on Foula in June 1992 (S. Gear *pers. comm.*). A German Wasp *Vespula germanica* (Fabricius) found in fruit at Cunningsburgh in March 1993 (J. McKee *pers. comm.*) was unusual only in that anyone bothered to identify it. Talking to shop assistants anywhere in the islands reveals that wasps are amongst the commonest of the entomological surprises to be found in consignments of fresh produce.

In the summer of 1993 both Neil Marks and Harry Rose independently caught wasps free-flying in Lerwick which they identified as Common